



# NVIDIA VIRTUAL GPU

Boost Productivity and Accelerate  
Real-Time Collaboration for AECO

Image courtesy of HKS, Inc

*"With the old environment, it would take between six and eight hours to render those studies and the process would consume all of the resources on the chain. Now architects can multitask by running those simulation workloads on NVIDIA vGPU-powered VMs to get quick results, and in the meantime they can use their physical workstations to complete other critical deliverables."*

— Michael Smith, Director of Infrastructure, HKS, Inc.

## Challenges in the AECO Industry

In the architecture, engineering, construction, and operations (AECO) industry, firms often have multiple global and field offices that routinely collaborate on individual projects. Widely dispersed engineers and architects, as well as external vendors and contractors, form teams that touch all parts of a project cycle, from design to construction.

The nature of AECO work makes collaboration and mobility essential, but the PC hardware required to run high-end design and visualization applications makes mobility complex and difficult. To meet the needs of today's distributed AECO teams, firms now turn to virtual workstations to run resource intensive applications to process large amounts of data. In the past, engineers who worked in satellite offices and project trailers had to wait up to an hour for models to load and open on their local workstations—impacting productivity and reducing billable hours. With GPU-accelerated virtual workstations, 3D building and infrastructure models can be accessed efficiently and securely.

## AECO Use Cases for NVIDIA Virtual GPU

- > **3D Graphics** - AECO firms can deliver superior graphics performance to architects and engineers on virtual desktops from the data center. Users get the same responsive experience in a virtualized environment as they would expect from a physical workstation, to view and work with large 3D models.
- > **Version Control** - With NVIDIA vGPU solutions, AECO firms no longer need to worry about errors resulting from multiple copies of data residing on local workstations. Centralizing designs in the data center allows for greater consistency and control over design changes, leading to improved quality and enhanced security.
- > **Collaboration on Any Device** - By enabling employees to use the device of their choice to access fully 3D capable virtual workstations from anywhere, teams can speed up the design process.
- > **IT Management** - Live migration enables live VMs to be migrated without end user disruption or data loss and enables designers to work on models during the day and render at night using the same server infrastructure.

NVIDIA virtual GPU (vGPU) software enables powerful GPU performance for workloads ranging from graphics-rich virtual workstations to data science and AI, enabling IT to leverage the management and security benefits of virtualization as well as the performance of NVIDIA GPUs required for modern workloads. Installed on a physical GPU in a cloud or enterprise data center server, NVIDIA vGPU software creates virtual GPUs that can be shared across multiple virtual machines, accessed by any device, anywhere.

### INDUSTRY

- > Architecture, Engineering, Construction, and Operations (AECO)

### BUILT FOR

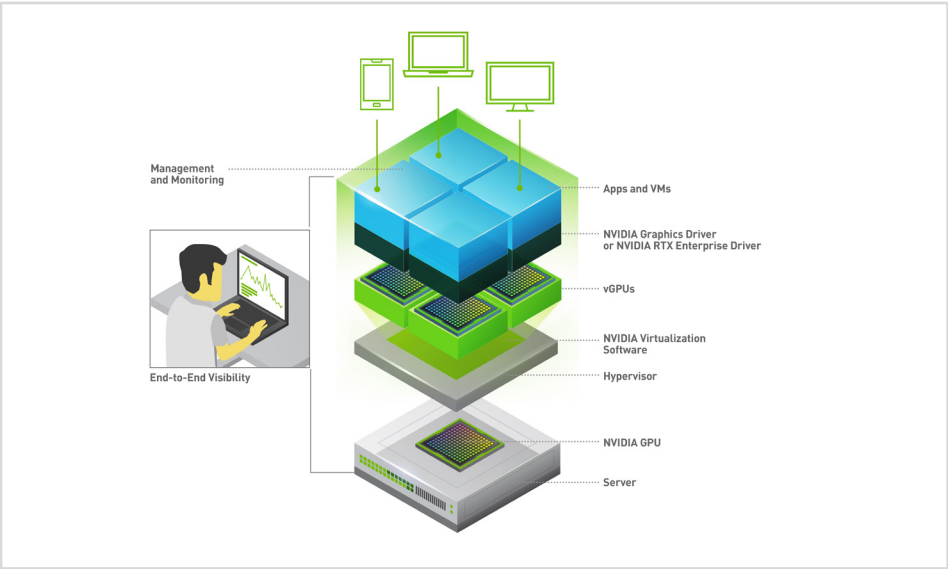
- > NVIDIA RTX Virtual Workstation
- > Business decision-makers in AECO
- > Architects, Engineers, and Designers
- > NVIDIA Virtual PC
- > Marketing, HR, Finance

### PLATFORM FEATURES

- > Deliver performance virtually indistinguishable from a bare metal environment
- > Leverage common data center management tools such as live migration
- > Provision GPU resources with fractional or multi-GPU virtual machine (VM) instances
- > Responsive to changing business requirements and remote teams

Unlock the Next Level of Performance with Virtual GPUs

GPU virtualization enables every virtual machine to get the same GPU benefits as a physical desktop. Because work that was typically done by the CPU has been offloaded to the GPU, the user has a much better experience and more users can be supported.



Virtual GPU Software for Every Workload

Our software gives you access to continuous innovation for your vGPU deployment, in addition to ongoing support and maintenance.

| NVIDIA RTX Virtual Workstation (vWS)  | NVIDIA Virtual PC (vPC)   | NVIDIA Virtual Applications (vApps)  |
|---|---|--|
| The NVIDIA RTX Virtual Workstation (vWS) enables access to 3D AECO applications in a virtualized environment. | NVIDIA® Virtual PC (vPC) is ideal for general-purpose VDI in AECO firms for knowledge workers in finance, human resources, marketing and other users of office productivity applications. | NVIDIA Virtual Applications (vApps) enables application streaming with Remote Desktop Session Host (RDSH) solutions. |

Future Proof Your Infrastructure

| Exceptional User Experience  | Best User Density  | Continuous Innovation   |
|--|--|---|
| Superior performance, with the ability to support both compute and graphics workloads for every vGPU | The industry’s highest user density solution, with 2x the user density with A16 compared to the previous generation M10, reducing the amount of hardware resources needed and lowering TCO | Regular cadence of new software releases that ensures you stay on top of the latest features and enhancements           |
| Predictable Performance  | Optimal Management and Monitoring  | Broadest Ecosystem Support  |
| Consistent performance with guaranteed quality of service, whether on-premises or in the cloud       | End-to-end management and monitoring that delivers real-time insight into GPU performance, as well as broad partner integrations so you can use the tools you know and love                | Support for all major hypervisors and the most extensive portfolio of professional apps certifications with RTX drivers |

## Common Applications



## Experience the Difference of Virtual GPUs

See how NVIDIA Virtual GPUs deliver next level productivity, mobility, security, and flexibility for every use case with [NVIDIA vGPU 90-day evaluation](#).

[Learn more](#)

For more information, visit [www.nvidia.com/aec](https://www.nvidia.com/aec)